

Packaging for oral hygiene products - consists of blister packs separated by perforated lines which contain capsules of tooth-paste and other substances which dissolve in user's mouth

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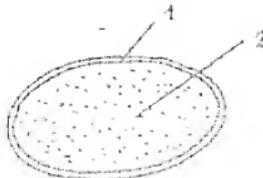
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Abstract of DE 4238421 (A1)

The packaging is for toothpaste and/or other products for oral hygiene. A portion of toothpaste (2) may be enclosed in a capsule (1) which may be opened by chewing or by dissolving in the mouth. The complete capsules may be sold in a set of blister packs (3) which are easy to open. The individual packs (4) are separated from one another by perforated lines (5) to enable them to be easily detached. The complete pack (3) may incorporate blister packs containing a variety of different products (6,7,8). USE/ADVANTAGE - Blister pack containing oral hygiene products eg. toothpaste in capsule form.



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[0001] The invention relates to a package for toothpaste or mouth therapeutic agent in particular tooth therapeutic agent.

State of the art

[0002] Toothpaste is usually packaged in tubes, which contain a supply for several weeks. Such tubes consist of metal, z. B. Aluminium sheet or from plastic. Both packaging materials are relative expensively in the production. With a combination of different materials, z. B. a tube from metal with a screw-type cap from plastic, also the professional disposal is expensive.

[0003] During a conventional tube packing problems arise with the removal of the toothpaste. At the screw-type cap of the tube germs settle and an hygienic proper removal of the toothpaste are ensured no longer. Further a tooth paste tube can be emptied hardly to complete, since tooth paste remainders in the tube get stuck, and frequent becomes the complete removal of the toothpaste already before by drainage prevented, if the closure cap is not no more screwed on after the use or the tube breaks.

[0004] Beside the tube packing the toothpaste becomes now also offered in dispensers. However the problem of the germ settling at the point of usage remains existing also here. Both the tube packing and the dispenser are besides relative unmanageably, so that the toothpaste stays during the day usually in the bathroom and is not on the way carried forward to the work station or, in order the teeth also bottom tags to be desmeared and thus an as optimal tooth and a mouth hygiene as possible to obtained.

[0005] Also mouth and Zahnratherapeutika, which are not either in addition of the tooth flash with toothpaste or for the execution of other taking precautions and therapies measure in the tooth and mouth range inserted to become to be able, so far in suitable and practical dosage forms more available. Known packing forms such as bottles with drop donors are unmanageable and easy in the long run and bring therefore comparable problems with the transport with itself like tooth paste tubes. Besides required one to the proper dosage and to the convenient ingestion of the therapeutic agents normally a spoon.

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Object

[0006] It is therefore object of the instant invention, a package for toothpaste or mouth therapeutic agent, in particular tooth therapeutic agent, to create which is more usable versatile and which avoids mentioned problems known packages.

[0007] This object becomes 1 dissolved of a package with the features of the claim. Advantageous embodiments are subject-matter of the Unteransprüche.

[0008] A handy package for toothpaste or mouth therapeutic agent provided, which can be carried forward problem-free also to the work station and on the way for example in a jacket or a handbag place finds, becomes according to invention. Practical no risk that the package is crushed, on tears and the content withdraws, exists like this passed easy with a conventional tooth paste tube by the handy format of the package. Thus the assisted package according to invention a regular, also during the day continued dental care.

[0009] Because according to the invention becomes the envelope only in the mouth opened, is a germ-free removal of the toothpaste and/or, the mouth therapeutic agent ensured.

[0010] The Portionierung according to invention of the toothpaste and/or, the mouth therapeutic agent it places besides safer that the accurate actual required amount at active agents received will and the package as before a too small cannot become or large quantity at toothpaste or mouth therapeutic agent removed.

[0011] Furthermore welfare-end action, which general proceeds from pills, capsules or tablets to the mediated kapselförmige package of the invention the principle of one. Such a mental connection, which is missing with a paste, the enlarged acceptance and spread of the tooth flash.

[0012] In a preferable embodiment the envelope of the package according to invention is dissolvable by saliva admission in the mouth. A such dissolvable envelope can consist for example of soft gel. In addition, it can from other, for which people compatible materials manufactured its, which dissolve in the mouth. The dissolvable envelope offers the advantage that the removal of the toothpaste and/or, the mouth therapeutic agent convenient is and no residues of the envelope disposed to become to have. Such kapselförmigen packages can be manufactured industrial inexpensive and in large quantity.

[0013] With an other preferable embodiment the envelope of the package is to be opened by chewing pressure, and the removal of the toothpaste and/or, the mouth therapeutic agent made in the mouth. The envelope z exists. B. from polyethylene or a comparable zerkaubare material, whereby a such envelope becomes disposed after the removal of the content. Therefore it is for an unproblematic disposal of the covering remainders of favourable, the zerkaubare envelope from a water-soluble material to finished. In this way the envelope can after the removal of the content z. B. in the drain decompose, and a blockage of the drains becomes so avoided.

[0014] Further the zerkaubare envelope can consist of a rubbery material elastic in connection with saliva, like z. B. a chewing rubber matrix. Then targeted certain active agents can be added to a such chew-rubber envelope, be become those after made removal of the content of the envelope and after made tooth flashes by subsequent washrooms of the envelope in the mouth disposed, known of conventional chewing gums. Either these active agents will become then when chewing, depending upon type of the active agent, by the mouth mucous membrane absorbed or them first by the saliva received, are present then in the saliva in a certain concentration and work within the mouth range by the concentration gradient between salivas and z. B. a tooth surface. Such active agents in the chew-rubber envelope can be for example fluorides, calcium, phosphates, selenium, magnesium or other trace elements, z. B. also such, which are in the drinking water in to low concentration present. Other such active agents can be such cloths, adjust those the Mundflora and z. B. for a fresh breath provide. Contrary to conventional highly concentrated mouth disinfectants simultaneous does not

become also the healthy Mundflora affected and the Mundflora produced hydrogen peroxide disinfecting when chewing on natural manner by the receptacle of the smaller dosed active agents distributed when chewing over a longer period. Furthermore z can. B. Vitamin E of the envelope as active agent to be added.

[0015] If the envelope according to invention consists of a water-soluble material, it is convenient, the water content of one of the envelope umschlossenen toothpaste, which amounts to up to 40%, by alcoholic solutions, greases, oils, glycerols or other substitutes to at least partly replace, which do not cause decomposition of the water-soluble envelope from the inside out. Likewise it has convenient from the same reason to at least partly replace with a mouth therapeutic agent in a water-soluble envelope according to invention the water content by corresponding substitutes.

[0016] In an other preferable embodiment of the invention the envelope encloses an acidic mouth and/or. Tooth therapeutic agent. The benefit of zuckerhaltigen foods, like z. B. Chocolate or cake, leads in the mouth to a "acidic shock", D. h. a strong decrease of the pH value in the mouth into the acidic region. This state stops then for hours and favored in special manner a Kariesbildung. A corresponding dosed acidic mouth and/or. Tooth therapeutic agent the normalized pH value of the mouth environment within fewer seconds after the removal from the envelope and prevented so the strong Vermehrung of kariogene bacteria, as it takes place in an acidic environment. Suitable acidic therapeutic agents are Antacide, like z. B. Magnesium sulfate in oily solution, or comparable cloths. Since sugar is a "Vitamin B robber", it is favourable to add a particular amount Vitamin B complex in order to compensate the developed deficiency. Such a package according to invention with an acidic therapeutic agent, either with or without additional Vitamin B complex, can become if necessary after the benefit of zuckerhaltigen foods applied.

[0017] With an other favourable embodiment of the invention the envelope encloses one antibacterially and antiinflammatory acting liquid. Such a liquid, z. B. Chlorhexidindigukonat or a comparable substance, can become in the first three to four days after a parodontalchirurgischen intervention applied, since in this phase a mechanical tooth cleaning with a toothbrush and with toothpaste is possible not yet due to the danger of injury at the surgical sites. Whereupon reconstructing other packages provided can become, their respective ingredients on the healing process of the surgical site of the patient tuned are and the ensure that the tooth and mouth hygiene in courses of the healing phase with the proper in each case therapeutic agents made. After completed healing can become packages with for this patients suitable toothpaste provided.

[0018] It is favourable to plan packages according to invention with toothpaste with which the quantity at dredging chalk, contained as sharpening additive, by a substance with strong abrasiv components replaced is. Deposits, which have itself at the teeth due to smoking or dte drinking formed, can become by the opposite conventional toothpastes increased Schleifwirkung of the toothpaste better remote in such a way.

[0019] Convenient ones can packages with toothpastes, which are composed from most different ingredients and whose ingredients are in their respective quantities varied, provided become. Likewise packages with Plaque Zahnhärbedikatoren or Zahnhäfleischtherapeutika represent favourable embodiments. Also combinations of these ingredients with the above ingredients like acidic therapeutic agents, Vitamin B complexes or antibacterially acting therapeutic agents within a package are convenient.

[0020] Each mouth-compatible geometric shape is according to invention suitable for the package. In addition the package can become by a colored envelope characterized, so that it can become easy distinguished of other packages with other ingredients.

[0021] Preferably the packages become according to the invention in a series packing arranged. Such a series packing a possible sorted arrangement of the kapselförmigen packages for toothpaste, located therein, and/or. Mundtherapeutika. So z can with a corresponding identification of the single compartments or compartments of the series packing. B. by label, symbols or colors, single kapselförmige packages with different ingredients unique identified become. The series packings can be thereby in form and material different formed, z. B. as cardboard box with fan partitioning or as plastic box with single compartments.

[0022] Preferred one the bottom series packings is a strip packing, as it is in the medical region common to the storage of tablets or capsules. A strip packing offers the advantage of the germ-free storage of the kapselförmigen packages of the toothpaste and/or. Mundtherapeutika up to their removal from the pushing through compartment. In addition the push through-mature between the single compartments can be provided with perforations, so that by the strip packing smaller demand quantities are more separable. In this way z can. B. the daily or week need of toothpaste convenient, safer and germ-free on the way to be carried forward. With strip packings the single compartments in simple manner on the smooth surface of the withdrawal side can be marked by label or a coding by symbols or colors.

[0023] The package according to invention can also for the simple execution of tests concerning, allergic reactions on ingredients of toothpastes serve. With a for this suitable embodiment kapselförmige packages are in a series packing or in particular a strip packing arranged, whereby constructing a first kapselförmige package contains one on the other a tooth paste basic substance, each other package an other tooth paste ingredient and a last package a complete toothpaste. With the help of these cap packages arranged after the increased number at tooth paste ingredients in ascending series the patient, on the basis of a tooth paste basic substance, can test successively the added components of the toothpaste, until with Hinzutreten of a certain ingredient an eventual allergic reaction arises. By a continuous identification of each cap package or each compartment of the series packing, z. B. as is the case for a strip packing with contraceptive pills, on which the patient addresses allergic, can become on the basis the identification identified. It is also more conceivable to plan series of kapselförmigen packages the corresponding number of the ingredients which can be tested of which everyone contains only in each case one tooth paste basic substance and a single tooth paste ingredient, instead of building the toothpaste up in ascending series of cap packages complete. In addition it is convenient same copies several of each particular composed test capsule packing with a series and/or. To plan strip packing. So an eventual arising allergic reaction can become safe found and the out solving ingredient precise assigned by the longer period of each single test section.

[0024] If the patient on a tooth paste ingredient allergic responsive and this ingredient with the help of an allergy test identified is, packages with an individual composed toothpaste can become provided, which does not contain the allergy-releasing ingredient.

[0025] With an other preferable embodiment some particularly characterized packages arranged become, the ingredients with particular mouth and/or in a series packing or in particular strip packing beside cap packages with toothpaste. tooth-fleischtherapeutic functions contain, as they became other described above. For example a tooth paste strip packing some cap packages with acidic mouth therapeutic agent or some capsules with a gum therapeutic agent can become accompanying. These additional cap packages can become then if necessary applied.

[0026] With another embodiment tooth paste cap packages in a series packing or a in particular strip packing become arranged and for example marked with continuous numerals, so that a removal of the kapselförmigen packages can take place in prescribed manner. Such capsules can be in regular intervals in the series packing provided, contain the one toothpaste with strong abrasiv sharpening additives, in order, to be removed as other described above, by smoking or dte drinking of caused residues and deposits at the tooth better instead of the normal tooth paste capsules.

[0027] Beside series packings with a particular assortment at cap packages, z. tuned on the requirements after a parodontalchirurgischen intervention. B. with antibacterially acting substances and Zahnhäfleischtherapeutika series packing provided can be, in those various packages with toothpaste and mouth and/or. Zahnterapeutika in arbitrary manner combined with one another are.

[0028] Beside the conventional arrangement of strip packings in a box from laminated paper, carton or such, it can be favourable to accommodate strip packings in such a box as it becomes usually used with the package of cigarettes. In this way it is possible, such boxes with kapselförmigen packages with toothpaste and/or. To offer Mundtherapeutika in cigarette automats. The boxes can for example also plug together travel toothbrushes accompanying become. In addition for example the strip packings with tooth paste

capsules particular cap packages for smokers can become the improvement of the breath or the better removal smoke-conditional deposits at the teeth accompanying.

Aufführungsbeispiel

[0029] In the following the invention is to become only exemplary on the basis the accompanying designs explained. Show:

[0030] Fig. 1 an embodiment of the package according to invention for toothpaste or mouth therapeutic agent in a cut illustration; [0031] Fig. 2 an embodiment of a strip packing with packages for toothpaste or mouth therapeutic agent in plan view on the plastic formed page, arranged therein;

[0032] Fig. 3 the embodiment of a strip packing in accordance with Fig. 2 in plan view on the withdrawal side.

[0033] With in Fig. 1 kapselförmigen package shown encloses an envelope 1 one for a single application portionierte amount at toothpaste 2. The envelope 1 dissolves in the mouth by the access of saliva, so that the toothpaste becomes germ-free 2 in the mouth the envelope removed and subsequent provided to the tooth flash in the proper dosed amount is.

[0034] Fig. a strip packing 3 with single pushing through departments 4, which are 5 divided by perforations, shows 2, so that any required supply quantity of the strip packing can become separated. The strip packing 3 contains a week need of tooth paste packages 6 with threefold tooth flash per day, whereby each screened package 7 strong abrasiven sharpening additives included. In addition 3 particular cap packages 8 accompanying, the one acidic mouth therapeutic agent are contained of the strip packing.

[0035] As from Fig. 3, is the sequence of the removal of the cap packages on the withdrawal side of the strip packing 3, whereby the cap packages with strong abrasiven sharpening additives particularly characterized are, in the example by rectangular framing 9 prescribed by continuous numerals comes out. The three additional cap packages of 8 foods to the compensation of the arising acidic shock in the mouth environment, zuckerhaltiger to the application after the benefit, are in the example with a "Z" marked and can depending upon need removed become.

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Claims of DE4238421

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- 1. Package for toothpaste or mouth therapeutic agent, in particular tooth therapeutic agent, characterised in that one for a single application portionierte amount at toothpaste (2) or mouth therapeutic agent by one in the mouth to openable envelope (1) is enclosed.
- 2. Package according to claim 1, characterised in that the envelope (1) by saliva admission in the mouth is dissolvable.
- 3. Package according to claim 2, characterised in that the envelope (1) of soft gel consists.
- 4. Package according to claim 1 to open for characterised in that the envelope (1) by chewing pressure of the teeth is.
- 5. Package according to claim 4, characterised in that the envelope (1) of a rubbery mass elastic in connection with saliva consists.
- 6. Verpackung nach Anspruch 5, dadurch gekennzeichnet, dass die Hülle (1) über die Mundschleimhaut resorbierbare Wirkstoffe enthält.
- 7. Package according to claim 5, characterised in that the envelope (1) active agents contains, which work present concentration within the mouth range by a receptacle in the saliva and one then in the saliva.
- 8. Package after one of the claims 1 to 7, characterised in that the water content of the toothpaste and/or. the mouth therapeutic agent by a liquid from the group of alcoholic solutions, greases, oils and glycerols replaced is at least partial.
- 9. Package after one of the claims 1 to 8, characterised in that the mouth therapeutic agent an acidic therapeutic agent is.
- 10. Package according to claim 9, characterised in that the mouth therapeutic agent an additional Vitamin B complex covers.
- 11. Package after one of the claims 1 to 8, characterised in that the mouth therapeutic agent an antibacterially acting and antiinflammatory liquid is.
- 12. Package after one of the claims 1 to 8, characterised in that the quantity at dredging chalk by a substance with strong abrasiven components replaced, contained as sharpening additive in the toothpaste, is.
- 13. Package after one of the claims 1 to 12, characterised in that the package with other packages in a series packing arranged is.
- 14. Package according to claim 13, characterised in that the series packing a strip packing (3) is.
- 15. Package according to claim 13 or 14, characterised in that the series packing or a set from matching series packings packages after one of the claims 1 to 8 included, from which first contains a tooth paste basic substance and each other package additional in each case to the tooth paste basic substance an other tooth paste ingredient, whereby in the last package a toothpaste is contained in their complete composition.
- 16. Package according to claim 15, characterised in that each package with a different composition at tooth paste ingredients in the series packing or the set of matching series packings multiple present is.
- 17. Package according to claim 13 or 14, characterised in that in the series packing or the set of matching series packings beside packages (6) with toothpaste (2) in accordance with one of the claims 1 to 8 some particularly characterized packages (7, 8) arranged are contained, the ingredients with particular tooth or of mouth-therapeutic functions.
- 18. Package according to claim 17, characterised in that the particularly characterized packages (7, 8) from packages in accordance with the claims 9 to 12 selected are, whereby these packages are either all of a same type in accordance with the claims 9 to 12 or in arbitrary combination from several types in accordance with the claims 9 to 12 assembled are.
- 19. Package after one of the claims 13 to 18, characterised in that the series packings in a box packaged are, which corresponds to a box conventional with the package of cigarettes.